

Work Order ID 143385

Monday, March 21, 2016 8:21:31 AM

143385

Page 1

Item ID: D4773-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Wearplate

Start Date: 4/8/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 4/22/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4773	C								

105

0.00

105

Purchasing

Memo

ISSUE PO 31764
CUT PER DRWG D4773 REV.C

0.00

4

MAR 21 2016

DAS
13
9-89

115

Receive & Inspect for Damage & Mat'l Certs

0.00

115

Packaging

Memo

0.00

4x SP16-04-7

125

QC5- Inspect part completeness to step on W/O

0.00

125

QC

Memo

0.00

Quality Control

P.T.O.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: BKS Date: 910Z E O 130Work Order update only ☐

Work Order: <u>143385</u> Part No. <u>D4773-1</u> NCR No. <u>16-6076</u>		DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☒ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☒</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☒																																																	
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Date: <u>16-04-12</u>		Step #: <u>105</u>		QTY Effective: <u>4</u>		MRB (QS1042) Approval DAS 9 9-89 <u>16-04-20</u>																																																																	
Description Work Order Deviation				Disposition		Completed By DAS 38 9-89 <u>MAY 04 2016</u>																																																																	
During inspection some dimension where found out of tolerance. See attach FAI R.C. supplier				Scrap + destroy.		Lead hand / Supervisor Approval Verification DAS 9 9-89 <u>16-05-03</u>																																																																	
						QC / QA Coordinator Approval DAS 9 9-89 <u>16-05-03</u>																																																																	
Root Cause <table style="width:100%;"> <tr> <td>Environment ☐</td> <td>No Re-verification ☐</td> </tr> <tr> <td>Design ☐</td> <td>Operator ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td>Offset/Setup ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Supplier ☒</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Training ☐</td> </tr> <tr> <td>Material ☐</td> <td>Use for Testing ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Poor Information ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Rushing ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Product Improvement ☐</td> </tr> <tr> <td>Substation ☐</td> <td>Process Improvement ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>Manufacturing Process ☐</td> </tr> <tr> <td>Misidentified ☐</td> <td>Past Due ☐</td> </tr> </table>				Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☒	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width:100%;"> <tr> <td>Pressure/Forced ☐</td> <td>Temperature/Cure ☐</td> <td>Power Loss/Surge ☐</td> <td>Positioned Wrong ☐</td> </tr> <tr> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☒</td> </tr> <tr> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> </table>				Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☒	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
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OTHER: _____																																																																							

Work Order ID 143385

Monday, March 21, 2016 8:21:31 AM

143385

Page 2

Item ID: D4773-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Wearplate

Start Date: 4/8/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 4/22/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

0.00

130

Small Fab

Memo

0.00

Small Fab

Form as per dwg D4773

140

0.00

140

QC

Memo

0.00

Quality Control

150

0.00

150

Packaging

Memo

0.00

Packaging

Identify as per dwg & Stock Location: _____

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 143385

Monday, March 21, 2016 8:21:31 AM

143385

Page 3

Item ID: D4773-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Wearplate

Start Date: 4/8/2016 Start Qty: 4.00 ***4***

Cust Item ID:

Required Date: 4/22/2016 Req'd Qty: 4.00 ***4***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC21- Final Inspection - Work Order Release

0.00

160

QC

Memo

0.01

Quality Control

MAY 04 2016

MS
φ

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Monday, March 21, 2016 8:21:31 AM

Page 1

Work Order ID: 143385

143385

Parent Item: D4773-1

D4773-1

Parent Item Name: Wearplate

Start Date: 4/8/2016

Required Date: 4/22/2016

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A 13.03.26 NEW ISSUE DD VERF:JLM IPP REV:B
13.11.13 DWG REV.B DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4773-1P		Purchased	No				Each	0.0000		4			
D4773-1P									**				
Wearplate													
M304S18GA		Purchased	No			100	sf	269.4960	1.31	5.51579			
M304S18GA									**				
304/316 .050 Sheet													

Location

Loc Qty

Loc Code

MAT020

269.496

M133328

171.996

M133587

97.5

m134604

Yx sp 16-04-7

APR 01 2016

DAS
13
P-8

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER :							
Misidentified ☐	☐ Past Due								

DART AEROSPACE LTD		Work Order: 143385
Description: Wearplate		Part Number: D4773-1
Inspection Dwg: D4773	Rev: 4	Page 1 of 1

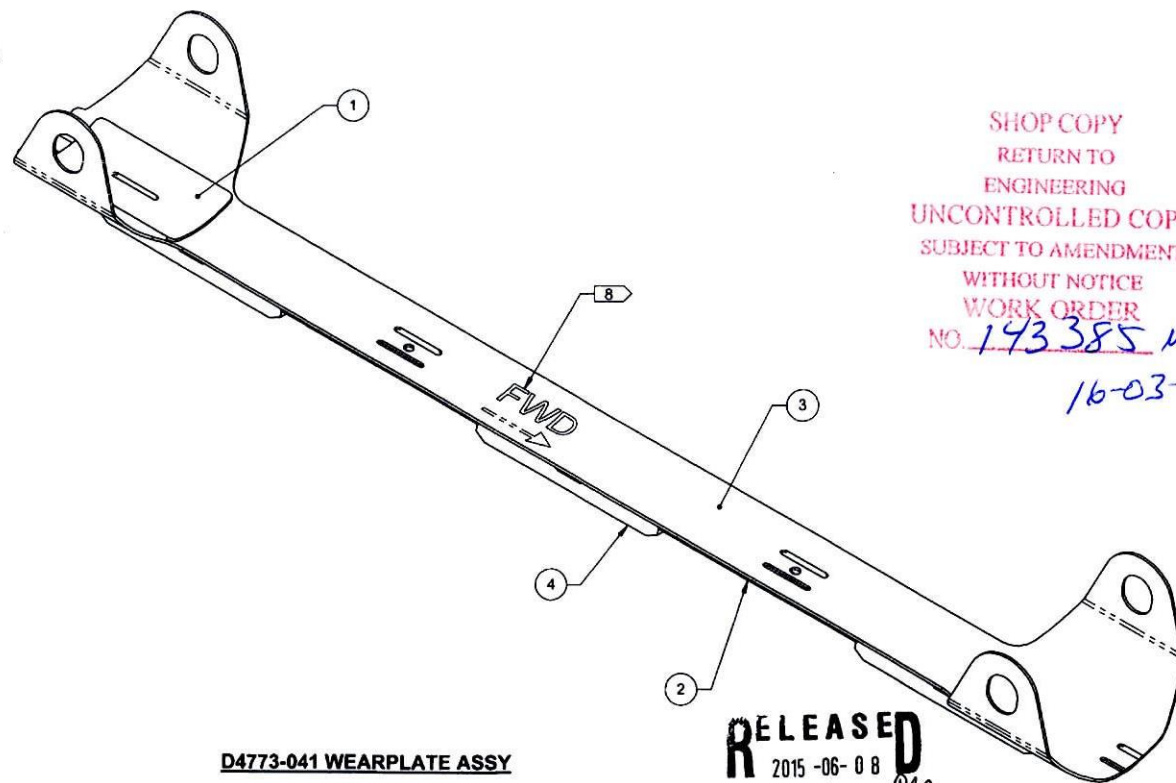
FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø1.88	+0.005/-0.001					
Ø0.650	+0.008/-0.001					
0.88	+/-0.030					
0.50	+/-0.030					
1.80	+/-0.030					
6.050	+/-0.010					
7.55	+/-0.030					
1.66	+/-0.030					
20.467	+/-0.010					
25.00	+/-0.030					
3.75	+/-0.030					
9.98	+/-0.030					
16.23	+/-0.030					
22.50	+/-0.030					
0.050	+/-0.010					
24.00	+/- .030	24.00	✓			
20.63	+/- .030	20.63	✓			
1.59	+/- .030	1.59	✓			
7.63	+/- .030	7.63	✓			
6.050	+/- .010	6.050	✓			
7.41.80	"	1.81	✓			
.775	+/- .010	.763				-.012"
.635650	+/- .010	.633				-.012"

Measured by: DAS 9 9-89	Audited by:	Preliminary Approval:
Date: 16-04-12	Date:	Date:

Rev	Date	Change	Revised by	Approved
A	13.05.27	New Issue	KJ	

ITEM	QTY	P/N	DESCRIPTION
	X	D4773-041	WEARPLATE ASSY
1	1	D4682-9	WEARPLATE SHIM
2	2	D4770-7	BAR
3	1	D4773-1	WEARPLATE
4	A/R	2059B	HARDCOAT



D4773-041 WEARPLATE ASSY

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

WITHOUT NOTICE
WORK ORDER

NO. 143385 MJS

16-03-17

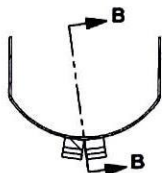
RELEASED
2015-06-08
EN 15-557

NOTES:

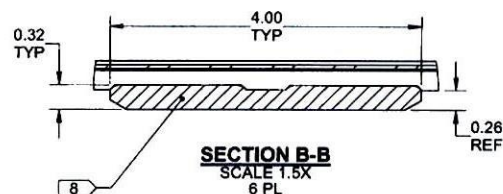
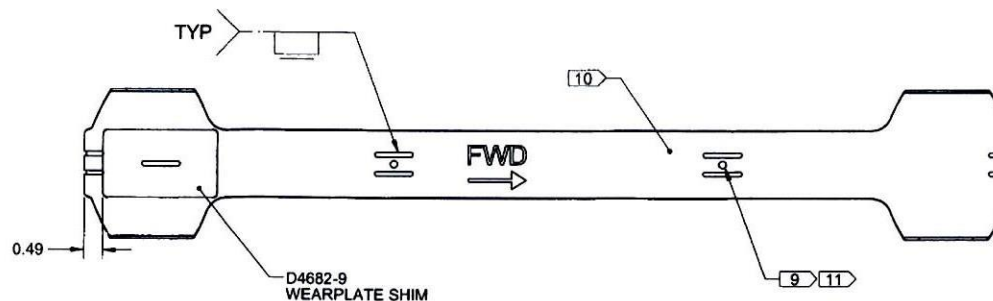
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 METHOD 6.1
- 7) WEIGHT: 3.56 lbs
- 8) INDICATE FWD DIRECTION IN LOCATION SHOWN USING WHITE PAINT MARKER

C	ADD FWD DIRECTION INDICATION, WEARPLATE FORMING METHOD MODIFIED TO ACCOMMODATE MATERIAL SPRING BACK, MINOR DIMENSIONAL CHANGES, TEXTURED COATING WAS ROCKGUARD, D4770-7 WAS D4770-1, ADD SHT 4	AP	15.04.01
B	D4682-9 WAS D4682-3, THRU HOLES NOW SLOTS, VARIOUS DIMENSIONAL CHANGES, UPDATED PART WEIGHTS	DB	13.08.08
A	NEW ISSUE	AP	13.02.13
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D4773	SHEET 1 OF 4
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	WEARPLATE ASSY	NTS
DATE	15.04.01	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

APPROVED



SECTION A-A



SECTION B-B
SCALE 1.5X
6 PL



D4773-041 WEARPLATE ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 METHOD 6.1
- 7) WEIGHT: 3.56 lbs
- 8) WELDING: PER QSI 004. 2059B HARDCOAT WELD, 0.32 THICK X 0.50 WIDE, FLUSH WITH D4770-7 BAR ON LATERAL SURFACES, 6PL
- 9) TRANSFER DRILL $\phi 0.188$ HOLE FROM D4773-1 WEARPLATE TO D4770-7 BAR
- 10) COAT ENTIRE TOP (CONCAVE) SURFACE WITH LAYER OF TEXTURED COATING, 0.020 - 0.040 THICK, PER QSI 005.
- 11) OPEN UP DRAIN HOLE IF NECESSARY TO $\phi 0.188$ AFTER APPLYING TEXTURED COATING

RELEASED
2015-06-08

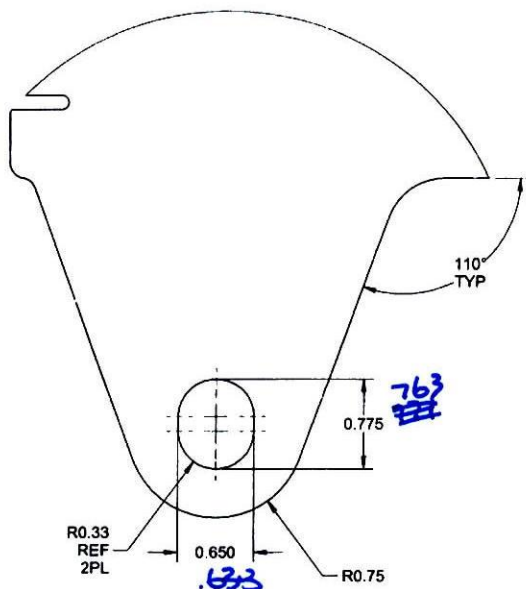
APPROVED

DESIGN	AJS	DART AEROSPACE USA, INC.	
DRAWN	AP	KENT, WA	
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D4773	SHEET 2 OF 4
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	WEARPLATE ASSY	NTS
DATE	15.04.01	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC.	
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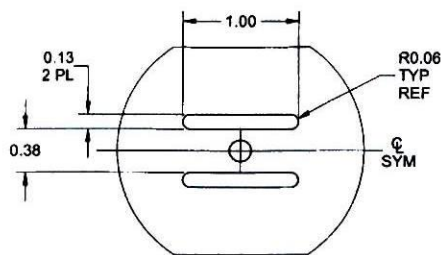
8 7 6 5 4 3 2 1

D
C
B
A

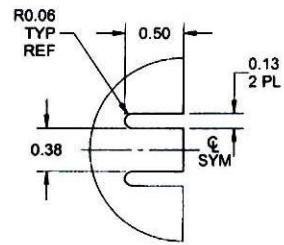
D
C
B
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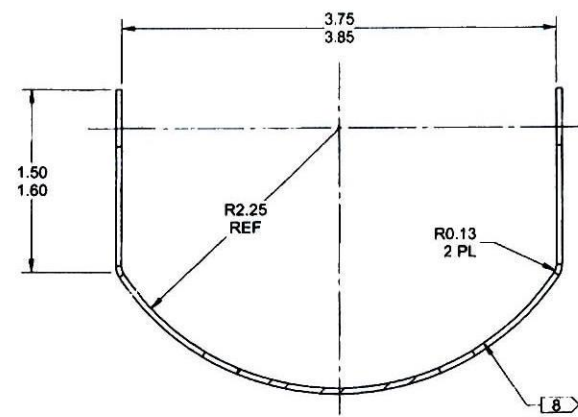
DETAIL D B6-3
SCALE 2X
4 PL



DETAIL E B3-3
SCALE 2X
2 PL



DETAIL F B2-3
SCALE 2X
2 PL



SECTION C-C D7-3
SCALE 2X

RELEASED
2015-06-08

APPROVED

DESIGN	AJS	DART AEROSPACE USA, INC.	
DRAWN	AP	KENT, WA	
CHECKED	AJS	DRAWING NO.	REV. C
MFG. APPR.	DD	D4773	SHEET 4 OF 4
APPROVED	HS	TITLE	SCALE
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8 7 6 5 4 3 2 1



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO31764

Purchase Order Date 3/21/2016

PO Print Date 3/21/2016

Page Number 5 of 11

Order From :

VC-TPI001

TPI INDUSTRIES INC.
148 RUE GOODFELLOW
DELSON, QUEBEC J5B 1V4
CANADA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 450-633-0484

Ship To Contact

Ship To Phone

Ship Via: —

Ship Acct:

11 D4773-1P Wearplate 4/6/2016
Yes
4/6/2016

CUT AS PER DWG D4773 REV. C
B143385
MATERIAL 304 SHEET 18 GA

12 D5152-1P Fwd Post Mount 4/6/2016
Yes
4/6/2016

CUT AS PER DWG D5152 REV. B
B142660 X 20 PCS
B143386 X 8 PCS
MATERIAL 304 SHEET 18 GA

13 D2581P Mounting Bracket 4/6/2016
Yes
4/6/2016

CUT AS PER DWG D2581 REV. A
B142787 X 48 PCS
B141097 X 20 PCS
MATERIAL 304 SHEET 11 GA

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB Destination-Collect

4.00 \$11.75 \$47.00
Each

SP16-04-7 Line Total: \$47.00

28.00 \$2.25 \$63.00
Each

Line Total: \$63.00

68.00 \$5.35 \$363.80
Each

Note:

3/21/2016

T.P.I. INDUSTRIES INC.

148 GOODFELLOW
DELSON, QUÉBEC J5B 1V4
CANADA
Tel: (450) 633-0484
Fax: (450) 633-0879

Packing Slip

Packing Slip No.: 7443
Date: 2016-04-05
Page: 1

Sold to:	Ship to:
Dart Aerospace Chantal Lavoie 1270 Aberdeen Hawkesbury, Ontario K6A 1K7 Canada	Dart Aerospace Chantal Lavoie 1270 Aberdeen Hawkesbury, Ontario K6A 1K7 Canada
Order No.: 31764	Sold By: JONATHAN LESSARD
Shipped By:	Ship Date: 2016-04-05
Tracking No.:	

Item No.	Unit	Description	Quantity
d3805-1	Chaque	d3805-1 plate	8
d4154-1	Chaque	d4154-1 plate	8
d4406-3	Chaque	d4406-3 plate	4
d4771-1	Chaque	d4771-1 wearplate	4
d4772-1	Chaque	d4772-1 wearplate	4
d4773-1	Chaque	d4773-1 wearplate	4
d5152-1	Chaque	d5152-1 fwd post mount	28

SP/6-04-7

Comment: Net / 30 from date of invoice 2% svc. chg. on invoices over 30 days

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

STAINLESS STEEL SHEET 304L-2B DUAL GRADE
".0480 Nom X 48.0000" X 96.0000"
PART NO.

PO/Rel 31741

We certify that this is a true copy of the report
furnished by the producer of the metal, or data
resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-983229-004

21Mar16

Pg 1/1

Signed by: 



METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

740 Imperial Road North

Certificate: 121787 1
Customer: 007206 001
Mail To:
THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Ship To:
THYSSENKRUPP MATERIALS
2821 LANGSTAFF ROAD
CONCORD, ON L4K5C6

Date: 12/08/2015 Page: 1

Steel: 304/304L

Finish: 2B

Corrosion: ASTM A262/14;18 Q bend-OK

Your Order: PEC271093

NAS Order: WN 0072789 01

PRODUCT DESCRIPTION:

STAINLESS STEEL COIL, C.R. ANNEALED & PICKLED. UNS 30400/30403
ASTM A240/15a, A480/14b, A666/15; ASME SA240/13, SA480/13, SA666/13
CHEM ONLY ON FOLLOWING ASTM: A276/13, A479/13a, A484/13a, A312/13
CHEM ONLY ON FOLLOWING ASME: SA312/13, SA479/13
AMS 5511H/5513J XMRK; MIL-5059D AMD3(X CRN MEAS); MIL-4043B
NACE MR0175/ISO 15156-3:2009 A, MR0103/07; QSS766D-A X MAG PERM
MIN. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED

REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.
EN 10204:2004 3.1; RoHS 1 & 2 Compliant
Material is Free of Radioactive Contamination
Steel Making Process: EAF, AOD, & Cont. Casting
Product Mfg. by a Quality Mgt. Sys. in Conf. w/ISO 9001
*Melted & Manufactured in the USA; Mat'l is DFARS Compliant

Product Id	Coil #	Skid #	Thickness	Width	Weight	-----Length-----	Mark	Pieces	Commodity Code
05X0L3 AA	05X0L3 A		.0460	48.0000	5,060	SHEETS	096.00	81	

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Chemical Analysis per ASTM A751/08

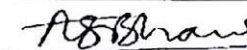
BEAT	CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %	S %
X0L3	US	.0214	18.0480	.4390	1.8095	.3690	.0812	8.0010	.0330	.0010
SI %										
.2980										

MECHANICAL PROPERTIES

Product Id#	Coil #	1 d o i c r	UTS KSI	20C .2% YS KSI	20C ELONG %-2"	% Hard RB	Tail Hard
05X0L3 AA	05X0L3 A	F T	99.26	53.12	48.68	88.00	87.00

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.



AMT TEST PLANT 12/09/2015